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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/600,208	07/12/2000	JOHANN ENGELHARDT	293.000218	7902

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EXAMINER

NGUYEN, THONG Q

ART UNIT	PAPER NUMBER
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2872

DATE MAILED: 05/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/600,208	Applicant(s) ENGELHARDT ET AL.	
	Examiner Thong Q. Nguyen	Art Unit 2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 February 2002.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 17, 18 and 22-39 is/are pending in the application.
- 4a) Of the above claim(s) 18, 26, 27 and 31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17, 22-25, 28-30 and 32-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 July 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 26 February 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.  
     If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
     a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Response to Amendment***

1. The present Office action is made in response to the Amendment and the drawing corrections filed on 02/26/2002.

### ***Drawings***

2. The corrected or substitute drawings in which applicant has added figures 4 and 5 into the present application were received on 03/05/2002. These drawings are approved and thus entered into the present application.

3. The objection to the drawings under 37 CFR 1.83(a) because the drawings do not show the feature concerning the plurality of objectives as recited in claim 24 made in the previous Office action (Paper No. 10, page 3, element 4) is repeated. Applicant's arguments provided in the Amendment (Paper No. 12, page 5) have been fully considered but they are not persuasive. See the reason as set forth in the section of "Response to Arguments" below.

### ***Specification***

4. The lengthy specification which was amended by the Amendment (Paper No. 12) of 02/26/2002 has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

5. The objection to the specification in page 3, lines 21-23 and lines 26-29 as set forth in the previous Office action (Paper No. 10, page 4, elements 6 and 7) are repeated. Applicant's arguments provided in the Amendment (Paper No. 12, page 6)

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have been fully considered but they are not persuasive. See the reasons as set forth in the section of "Response to Arguments" below.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. The rejections to claim 24-25 and 30 as set forth in the previous Office action (Paper No. 10, pages 5-6) are repeated. Applicant's arguments provided in the Amendment (Paper No. 12, pages 7-8) have been fully considered but they are not persuasive. See the reasons as set forth in the section of "Response to Arguments" below.

***Claim Rejections - 35 USC § 102***

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
9. Claims 17, 24-25, 30, 32-33 and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamamoto (U.S. Patent No. 5,184,012, of record).

See the rejection as set forth in the previous Office action (Paper No. 10, pages 6-7). It is noted that the claim 17 has been amended; however, the features which are added to claim 17 are the features recited in original, now canceled, claims 19-21. Thus, the claims do not have any further/new features from those of the original claims.

***Claim Rejections - 35 USC § 103***

10. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

11. Claims 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto (U.S. Patent No. 5,184,012) in view of Takagi et al (U.S. Patent No. 5,140,458) (all of record).

See the rejection as set forth in the previous Office action (Paper No. 10, pages 7-9).

12. Claims 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto (U.S. Patent No. 5,184,012) with or without Dabbs et al (U.S. Patent No. 5,054,926) (all of record).

See the rejection as set forth in the previous Office action (Paper No. 10, pages 9-10).

13. Claims 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto (U.S. Patent No. 5,184,012) in view of Kato (U.S. Patent No. 4,530,578) (all of record).

See the rejection as set forth in the previous Office action (Paper No. 10, page 10).

14. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto in view of Kato as applied to claim 34 above with or without Kain (U.S. Patent No. 5,672,880) (all of record).

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See the rejection as set forth in the previous Office action (Paper No. 10, pages 11-12).

15. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto (U.S. Patent No. 5,184,012) in view of Dreessen et al (U.S. Patent No. 5,404,238).

Yamamoto discloses a scanning microscope having an illuminating system for illuminating a sample. The illuminating system as described at columns 4-6 and shown in figures 1-3 comprises a beam expanding system (30) disposed on an optical light path from a laser source (see the prior art as described at column 1 and shown in figure 5) and a scanning system (34 and 35) for scanning the illuminated light beam on the sample (A). The beam expanding system (30) as described at column 5 and shown in figure 3A will expand the illuminating diameter for matching with a particular objective lens used in the scanning microscope (see also column 6 and fig. 2 which discloses the interchangeability of different objective lenses). It is also noted that in the embodiment described at column 5 and shown in figure 3A, the beam expanding lens system is a zoom lens system in which the first lens element (41) acts as an additional lens having a fixed focal length for coupling the light from the laser source, and the second and third lens elements (43, 42), which in combination having a variable focal length, are movable along the illuminated path. As a result, the collimation in the light beam exits from the beam expanding lens system will expand as a function of the focal length ratio between the fixed lens and the movable lenses. With

regard to the feature concerning the adjustment in the beam diameter of the illuminating beam being automatically in response to a particular objective lens being used, such a feature is also disclosed by Yamamoto as can be seen in column 4, lines 35+ and column 5, lines 45+. With regard to the feature that the scanning microscope is a so-called "multiphoton" scanning microscope, such feature is considered as an intended use of the scanning microscope because the claim does not provide any limitation for the making the scanning microscope as the so-called "multiphoton" scanning microscope.

The only feature missing from the art of Yamamoto is that he does not state that another light source is used via a coupling-in manner. However, the use of an illuminating system having more than one light source in a microscope is clearly known to one skilled in the art as can be seen in the microscope having an illuminating system provided by Dreessen et al. In particular, in column 2 and fig. 1, they disclose an illuminating system having only one light source; however, in column 3 and fig.2, they disclose the use of a coupling-in unit for coupling two light beams from two light sources. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the illuminating system provided by Yamamoto by using a illuminating system having two light sources and a coupling-in unit as suggested by Dreessen et al for the purpose of increasing the intensity of light or alternatively for altering the type of different light sources to be used to meet different requirements of illumination.

***Response to Arguments***

16. Applicant's arguments filed on 02/26/2002 have been fully considered but they are not persuasive.

A) With regard to the objection to the drawings, it is noted that in the Amendment (Paper No. 12), applicant has not amended the drawings but selected to provide his arguments that the subject claimed in claim 24 is old and well known (Amendment, page 5, Remark part, the third paragraph). The Examiner respectfully disagrees with the applicant's opinion and respectfully invited the applicant to review the Rule 37 CFR 1.83(a) and MPEP 608.02(d). *The rule clearly sets forth as follows: "...conventional features disclosed in the description and claims, where their details illustration is not essential for a proper understanding of the invention, should be illustrated in the drawing in the form of a graphical drawing symbol or a labeled representation (e.g., a labeled rectangular box)."*

B) With regard to the objection to the specification, it is noted that applicant's arguments as provided in the Amendment (Paper No. 12, page 6) have been fully considered but they are not persuasive. While applicant has tried to provide his explanations about the language used in the specification; however, applicant has not made any amendment to the specification to make clear the language being used wherein the language being used is not clear and/or recognized by one skilled in the art. Applicant should note that while applicant may be his or her own lexicographer, a term in a claim and/or specification may not be given a



meaning repugnant to the usual meaning of that term. See *In re Hill*, 161 F.2d 367, 73 USPQ 482 (CCPA 1947). The terms "fixed focal intercept" without any definition provided in the present specification is indeed not understood/recognized in the art. Further, the mentioned terms as a whole is not found in the Dictionary or in the textbook. In the same viewpoint, the description as provided in page 3, lines 26-29 is objected to because it is unclear about the teaching/description provided. What does applicant means by " $f_1/f_2$ "? Applicant's explanation provided in the Amendment have been fully considered but they are not persuasive. A beam can be expanded by a (set of) optical elements which elements do not necessary take the form of lens elements. A prism can be used to expand a diameter of a light beam and when the prism is used then there is not any thing related to the so-called " $f_1$ " and " $f_2$ ".

C) With regard to the rejections of the claims under 35 USC 112, applicant's arguments are also not persuasive. Applicant argued that the claims are clear and definite because the claim(s) is/are modified the function recited in its/their base claim. See Amendment, page 7. The Examiner respectfully disagrees with the applicant's opinion. While the Examiner agrees that the claim(s) recites/modifies the function of its base claim; however, the claim still recites different feature(s) which is not provided in a clear and definite manner. For instance, claim 24 recites that the optical system modifies the illumination diameter to match the entry pupil of a selected one of the objectives. See claim 24, lines 3-4. As such, it is unclear how can the optical system modify the

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illumination diameter to match with the entry pupil of the selected objective.

Which mechanism is used and how the user can determine that the diameter of the light is matched with the entry pupil of the selected objective. The claim and its base claim do not provide any features to warrant the matching between the diameter and the entry pupil.

D) With regard to the rejection of the claims under 35 USC 102(b) over the art of Yamamoto, applicant's arguments provided in the Amendment (Paper No. 12, page 8-9) have been fully considered but they are not persuasive. Applicant has argued that the device claimed a zoom optical system while the art of Yamamoto does not disclose a zoom optical system but rather an afocal beam expander system, and Yamamoto does not teach the use of a zoom optical system for modifying an illumination diameter in a confocal laser microscope. The examiner respectfully disagrees with the applicant's opinion for the following reasons:

First, the optical system comprises movable lens elements as provided by Yamamoto is used to vary the illumination diameter of an illumination light beam. Such a teaching is clearly disclosed in columns 4-5, and in particular, in column 4, lines 25-28 as follows: "The lenses 42 and 43, facing each other, are continuously movable within optical axis regions X1-X2 and X3-X4, respectively." The movement of the lenses in a continuous manner along an optical axis is clearly a zooming process.

Second, in response to applicant's arguments, the recitation "confocal laser microscope" has not been given patentable weight because the recitation occurs

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in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

E) With regard to the rejections of the claims under 35 USC 103, since applicant has not provided any specific arguments except referred to the lacking/missing of the features claimed from the art of Yamamoto, see Amendment (Paper No. 12), pages 9-10; therefore, the claims are rejected for the same reasons as set forth in the previous Office action.

Regarding to the feature concerning the aperture stop missing from the art of Kato, applicant's arguments have been fully considered but they are not persuasive. Applicant is respectfully invited to review the rejection as set forth in the previous Office action in page 10, lines 15-17 in which the Examiner has stated that the adjustment in the diameter of a stop for controlling the diameter of a light beam is known and in the level of one skilled in the art.

### ***Conclusion***

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

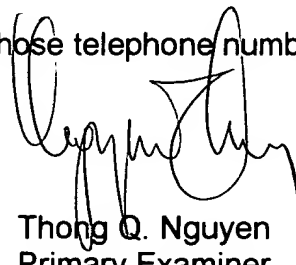
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A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thong Q. Nguyen whose telephone number is (703) 308-4814. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cassandra Spyrou can be reached on (703) 308-1687. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.



Thong Q. Nguyen  
Primary Examiner  
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May 17, 2002